DETAILED ACTION

1. This application is responsive to application number (10/785273) filed on February 24, 2004. Claims 1 – 18 are pending and have been examined.

Response to Arguments

2. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Jeon (US 2004/0066848) in view of Kondo et al (US 2004/0136461, hereafter Kondo).

As per **claims 1, 10, and 19**, Jeon discloses a method and apparatus for determining a first and a second reference picture used for inter-prediction of a block, comprising the steps of:

(A) finding in a first list co-located picture and a block (paragraph [0088] Ln 1-2; Jeon discloses the use of the co-located block and using it for intra-mode use, but further suggests based off the use of motion vectors an inter-mode use for the co-located block);

(B) determining in a second list a given reference picture (paragraph [0088] Ln 9-12 and [0089]);

(D) using (i) said reference index to determine said second reference picture (paragraph [0111]); the prior art discloses two reference pictures in a list0 and list1, which represents a first and second reference picture) and (ii) said co-located picture as said first reference picture, wherein said first and second reference pictures are used for inter-prediction of said current block (paragraph [0111]; as evidenced by Jeon the two reference pictures list0 and list1 are used for inter-prediction of the B-frame and calculates motion vectors corresponding to each list).

However, Jeon does not explicitly teach mapping in a third list a reference index to a lowest valued reference index where said given reference picture is stored.

In the same field of endeavor, Kondo teaches mapping in a third list a reference index to a lowest valued reference index where said given reference picture is stored

(paragraph [0102]; Kondo teaches that it selects a smaller which means if there is a selection between to reference index it would choose the smaller of the two and therefore ensure the lowest is selected).

Therefore, it would have been obvious for one having skill in the art at the time of the invention to modify the invention of Jeon with Kondo. Kondo explains that the advantage of using the smallest reference index is improvement in coding efficiency (paragraph [0102]).

As per **claims 2 and 11**, Jeon discloses the method and apparatus according to claims 1 and 10, wherein said block comprises an H.264 direct-mode macroblock or macroblock partition ([0011] Ln 6 – 10; the prior art discloses the direct-mode in conjunction H.264 on a slice level and can also be performed on a marcoblock since a slice is made up of marcoblocks.).

As per **claims 3, 12, and 20**, Jeon discloses the method and apparatus according to claims 1 and 10.

However, Jeon does not explicitly teach wherein step (C) further comprises:

storing a unique identifier for each reference picture, wherein said unique identifier is associated from (i) when said unique identifier was used as an inter-reference in the co-located picture to (ii) when said unique identifier is made available as a potential List0 inter-reference for the current picture.

In the same field of endeavor, Kondo teaches wherein step (C) further comprises:

storing a unique identifier for each reference picture (Fig 1 element 108), wherein said unique identifier is associated from (i) when said unique identifier was used as an inter-reference in the co-located picture to (ii) when said unique identifier is made available as a potential List0 inter-reference for the current picture (paragraph [0102] and [0105] lines 8-9; Kondo teaches that the motion vector refers to a picture of which reference index is the smallest).

Therefore, it would have been obvious for one having skill in the art at the time of the invention to modify the invention of Jeon with Kondo. Kondo explains that the advantage of using the smallest reference index is improvement in coding efficiency (paragraph [0102]).

As per **claims 4 and 13**, Jeon discloses the method and apparatus according to claims 1 and 10.

However, Jeon does not explicitly teach further comprising the step of:

storing a unique identifier of said given reference picture.

In the same field of endeavor, Kondo teaches further comprising the step of:

storing a unique identifier of said given reference picture (paragraph [0102] and [0105] lines 8-9; Kondo teaches that the motion vector refers to a picture of which reference index is the smallest).

Therefore, it would have been obvious for one having skill in the art at the time of the invention to modify the invention of Jeon with Kondo. Kondo explains that the advantage of using the smallest reference index is improvement in coding efficiency (paragraph [0102]).

As per **claims 5 and 14**, Jeon discloses the method and apparatus according to claims 4 and 13, wherein said inter-prediction operates on (i) a macroblock when in a first configuration and (ii) a macroblock partition when in a second configuration ([0087], the prior art discloses four different combination, configurations, for a frame mode and field mode, which are made up of macroblocks; the prior art discloses performing the method on a slice level (paragraph [0011] Ln 6-11; Jeon teaches a frame mode and a field mode and being able to switch between the two these indicate that two configurations).

As per **claims 6 and 15**, Jeon discloses the method and apparatus according to claims 4 and 13.

However, Jeon does not explicitly teach wherein step (C) further comprises the step of:

searching the said third list for the lowest valued reference index identifier by said unique identifier and returning the value of said lowest valued reference index.

In the same field of endeavor, Kondo teaches wherein step (C) further comprises the step of:

searching the said third list for the lowest valued reference index identifier by said unique identifier and returning the value of said lowest valued reference index (paragraph [0102] and [0105] lines 8-9; Kondo teaches that the motion vector refers to a picture of which reference index is the smallest).

Therefore, it would have been obvious for one having skill in the art at the time of the invention to modify the invention of Jeon with Kondo. Kondo explains that the advantage of using the smallest reference index is improvement in coding efficiency (paragraph [0102]).

As per **claims 7 and 16**, Jeon discloses the method and apparatus according to claims 1 and 10, wherein said method and apparatus further comprising the step of:

implementing an interpolative direct-mode prediction and a flexible choice for the picture referenced by a finite index reference (paragraph [0093]; the prior art discloses performing a motion vector prediction, interpolative direct-mode prediction, and the reference pictures are referenced by an index number that is finite).

As per **claims 8 and 17**, Jeon discloses the method and apparatus according to claims 1 and 10, wherein said method is implemented in a video encoder (paragraph [0014] Ln 2-5 and paragraph [0018] Ln 4; the prior art discloses a coding system and makes reference to a compression technique).

As per **claims 9 and 18**, Jeon discloses the method and apparatus according to claims 1 and 10, wherein said method is implemented in a video decoder (paragraph [0018] Ln 1-8; the prior art discloses a coding system and makes reference to a

decoded picture therefore a decoder is part of the coding system, which is well known in the art).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHIKAODILI E. ANYIKIRE whose telephone number is (571)270-1445. The examiner can normally be reached on Monday to Friday, 7:30 am to 5 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (571) 272 - 7905. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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